

WE CLAIM

1. A yielding grouted rock bolt to control the movement of unstable rock strata into which the bolt is installed, said bolt comprising an elongate tendon, a portion of said tendon having a grout slippage means, and a grout engaging anchor fitted to said tendon portion and thereby at least partially deforming same, whereby in yielding said tendon portion passes through said anchor and is worked thereby.
2. The bolt as claimed in claim 1 wherein said grout slippage means comprises a tube surrounding said tendon portion.
3. The bolt as claimed in claim 2 wherein said tendon is formed from metal and said tube from plastics.
4. The bolt as claimed in claim 1 wherein said anchor comprises a body engageable with said grout and formed in two parts which are clamped together over said tendon portion to fit said anchor thereto.
5. The bolt as claimed in claim 4 wherein said parts include at least one complementary protrusion and recess.
6. The bolt as claimed in claim 5 wherein said parts include a plurality of complementary protrusions and recesses.
7. The bolt as claimed in claim 4 wherein said parts include at least one pair of opposed protrusions forming a corresponding pinch point.
8. The bolt as claimed in claim 4 wherein said two parts are substantially identical.
9. The bolt as claimed in claim 4 wherein said parts are maintained clamped together by keeper rings shaped to mate with said parts.
10. The bolt as claimed in claim 1 wherein said tendon comprises a multi-strand cable.
11. The bolt as claimed in claim 1 wherein said tendon comprises a bar.
12. The bolt as claimed in claim 1 and having a plurality of said grout engaging anchors.
13. A two part rock bolt anchor adapted to be fitted to a tendon of a rock bolt, said anchor comprising a body engageable with grout into which said bolt is embedded, and having two parts shaped to be clamped together over said tendon.
14. The anchor as claimed in claim 13 wherein said parts include at least one complementary protrusion and recess.
15. The anchor as claimed in claim 14 wherein said parts include a plurality of complementary protrusions and recesses.
16. The anchor as claimed in claim 13 wherein said parts include at least one pair of opposed protrusions forming a corresponding pinch point.

17. The anchor as claimed in claim 13 wherein said two parts are substantially identical.
18. The anchor as claimed in claim 13 wherein said parts are able to be maintained clamped together by keeper rings shaped to mate with said parts.
19. A method of permitting a grouted rock bolt having a tendon to yield to control the movement of unstable rock strata into which the bolt is installed, said method comprising the steps of:
- (i) providing a portion of said tendon with grout slippage means;
 - (ii) fitting at least one grout engaging anchor to said tendon and thereby at least partially deforming same;
 - (iii) installing said rock bolt in a blind hole drilled in said rock strata;
 - (iv) introducing flowing hardenable grout into said hole to surround said bolt tendon and said anchor(s); and
 - (v) permitting said tendon portion to move through said grout but be worked by movement of said portion through said anchor(s) which is/are substantially immobilized in said grout.
20. The method as claimed in claim 19 including the further step of forming said tendon as a multi-strand cable.
21. The method as claimed in claim 19 including the further step of forming said tendon as a bar.
22. A rock bolt anchor adapted to be pressed onto a tendon of a rock bolt, said anchor comprising a body engageable with grout into which said bolt is embedded, and said anchor being shaped to be press fitted to said tendon.
23. The rock anchor as claimed in claim 22 and comprising a tube having an interior sized to receive said tendon.
24. The rock anchor as claimed in claim 23 wherein a portion of said tube is crushed to press fit said tube onto said tendon.